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for

STORAGE COMPARTMENT WITH POSITIONABLE POST FOR HOLDING A COMPACT DISC AND RELATED SYSTEM AND METHOD

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STORAGE COMPARTMENT WITH POSITIONABLE POST FOR HOLDING A COMPACT DISC AND RELATED SYSTEM AND METHOD

CROSS-REFERENCED APPLICATIONS

[1] The following U.S. patent applications are herein incorporated by this reference: U.S. Utility Patent Application serial no. ..... titled STORAGE COMPARTMENT FOR STORING ITEMS, AND RELATED SYSTEMS AND METHODS, attorney docket number 200314061-1 (1964-46-3), filed on 12 March 2004; U.S. Utility Patent application serial no. ..... titled HOUSING HAVING A CABLE CONDUIT AND RELATED SYSTEMS AND METHODS, attorney docket number 200314056-1 (1964-49-3), filed on 12 March 2004; U.S. Design Patent Application serial no. ..... titled PORTION OF A HOUSING FOR PROCESSING CIRCUITRY OR OTHER SIMILAR ITEM, attorney docket number 200314058-1 (1964-47-5), filed on 12 March 2004; and U.S. Design Patent Application serial no. ..... titled POWER SWITCH FOR PROCESSING CIRCUITRY OR OTHER SIMILAR ITEM, attorney docket number 200402715-1 (1964-47-6), filed on 12 March 2004.

BACKGROUND

[2] Many computer systems have a processor that receives and generates data and executes instructions, and have one or more storage devices that are coupled to the processor, that read data stored on a removable storage medium, and that write data to the medium. The processor typically includes circuitry, such as a central processing unit, for performing various computing functions, such as executing programs to perform specific tasks, and the computer system typically includes a housing to protect the processor, the storage devices, and other components of the computer system. In addition to its protection function, the housing may include a storage region to store removable storage media when the media are not being used.

[3] For example, **FIG. 1** shows a computer system ***10*** that includes a housing ***12***. The housing ***12*** includes a storage compartment ***14*** to store a storage medium ***16*** such as, e.g., a compact disc or a dvd. The storage compartment ***14*** includes a shaft ***18*** to hold the compact disc ***16*** in an interior ***20*** that is formed by four side walls ***22*** and a bottom side ***24***. The shaft ***18*** is fixed to the bottom ***24,*** and thus, may not be positioned relative to the bottom ***24*** in other positions. When storing the compact disc ***16*** in the compartment ***14***, one first aligns the hole ***26*** in the disc ***16*** with the shaft ***18***, and then guides the disc toward the bottom ***24*** such that the shaft ***18*** engages the hole ***26***.

[4] Unfortunately, storing other types of removable storage media, such as a magnetic disc and magnetic tape, or storing other items, such as a camera or camera docking station, in the storage compartment ***14*** can be difficult. Because the shaft ***18*** is not positionable relative to the bottom side ***24***, one has to place the disc or camera between a sidewall ***22*** and the shaft to store the item in the storage compartment ***14***. Because the distance between the shaft ***18*** and a sidewall ***22*** is approximately the radius of the compact disc ***16***, a typical magnetic disc, camera, or camera docking station may not fit well in the storage compartment ***14***. Thus, the storage compartment ***14*** does not easily and securely store items or removable storage media other than a compact disc or dvd.

SUMMARY

[5] In one aspect of the invention, a storage compartment for storing a compact disc, and/or other items, includes a side, and a post positionable relative to the side. With the positionable post, one may position the post to extend away from the side to retain one or more compact discs in the storage compartment; or one may re-position the post to store other items, such as a camera docking station, in the compartment. Thus, in addition to storing a compact disc in the compartment, one can also more easily and more securely store other items in the storage compartment.

BRIEF DESCRIPTION OF THE FIGURES

[6] **FIG. 1** is a perspective view of a conventional storage compartment that includes a fixed shaft for engaging the center hole of a storage medium such as a compact disc or dvd.

[7] **FIG. 2** is a perspective view of a storage compartment that includes a positionable post according to an embodiment of the invention.

[8] **FIG. 3** is a cross-sectional view of the storage compartment in **FIG. 2** with the post positioned to place a camera docking station in the compartment according to an embodiment of the invention.

[9] **FIG. 4** is an exploded, perspective view of the storage compartment and post in **FIG. 2**.

[10] **FIG. 5** is a cross-sectional view of a storage compartment that includes a positionable post according to another embodiment of the invention.

DETAILED DESCRIPTION

[11] **FIG. 2** is a perspective view of a storage compartment ***30*** that includes a positionable post ***32*** according to an embodiment of the invention. The storage compartment ***30*** may be incorporated into a housing ***34*** of a computer system ***36*** as shown, or the storage compartment may be separate from the computer system. The post ***32*** includes a body ***38*** to hold one or more storage media (omitted for clarity but shown in **FIG. 5**) and a coupling element (not shown in **FIG. 2** but discussed in greater detail in conjunction with **FIG. 4**). The coupling element couples the body ***38*** with a side ***40*** (here, the bottom) of the storage compartment ***30*** and allows the body ***38*** to be positioned relative to the side ***40*** in at least two different positions. In one of the positions, the post ***32*** may be used to retain one or more circular storage media in the storage compartment ***30***. In another position, the post ***32*** may be positioned to allow the storage compartment to store other items, for example a camera docking station (omitted for clarity but shown in **FIG.**

3), or other types of removable storage media such as a magnetic disc or tape. Thus, with the positionable post ***32***, one can store storage media, and can also more easily and more securely store other items, as compared to the storage compartment ***20*** of **FIG. 1**.

[12] Other embodiments of the storage compartment ***30*** are contemplated. For example, the positionable post ***32*** may be coupled to a sidewall ***22*** and positionable relative to the sidewall. In another example, the storage compartment ***30*** may include a top or lid, and the post ***32*** may be coupled to it.

[13] Still referring to **FIG. 2**, the post ***32*** may include a locking element (not shown in **FIG. 2** but discussed in greater detail in conjunction with **FIG. 4**) for retaining the body ***38*** at one or more positions where the body is angled relative to the bottom ***40***. For example, the locking element may retain the body ***38*** at two different angular positions. The first position may be where the body ***38*** is substantially perpendicular to the bottom ***40***. In the first position, the post ***32*** may be used to retain one or more storage media. The second position may be where the body ***38*** is substantially parallel to the side ***40*** and disposed in a receptacle ***42*** below a surface ***44*** of the bottom ***40***. In this second position, the post ***32*** does not extend past the surface ***44*** into an interior ***46*** of the storage compartment ***30***, and thus, allows one to store items other than a compact disc in the compartment. Alternatively, the locking element may retain the body ***38*** at more than two angular positions relative to the bottom ***40***.

[14] Other embodiments are contemplated. For example, the second position may include the body ***38*** remaining substantially perpendicular to the bottom ***40*** while disposed below the surface ***44*** of the bottom ***40***. In another example, the second position may include the body disposed in a receptacle of the sidewall ***22***.

[15] Still referring to **FIG. 2**, in one embodiment, the body ***38*** includes a first component ***48*** and a second component ***50*** that each may be positioned independently of each other. This may be desirable to reduce the depth of the receptacle ***42***. The coupling element may include a first coupling section (not shown in **FIG. 2** but discussed in greater detail in conjunction with **FIG. 4**) to couple

the first component ***48*** to the bottom ***40*** and to allow the first component ***48*** to be positioned relative to the bottom ***40*** in at least two different positions. The coupling element may also include a second coupling section (not shown in **FIG. 2** but discussed in greater detail in conjunction with **FIG. 4**) to couple the second component ***50*** to the bottom ***40***, and to allow the second component ***50*** to be positioned relative to the bottom in at least two different positions.

[16] Other embodiments are contemplated. For example, the body ***38*** may include more or fewer than two components ***48*** and ***50***. In another example, the body may be shaped differently. For example, the body may be triangular or rectangular shaped.

[17] In operation, one may position the post ***32*** relative to the bottom ***40*** as desired to store one or more storage media, or other items in the storage compartment ***30***. For example, in one embodiment, one may position the body ***38*** in a first position to store one or more compact discs by pivoting the first and second components ***48*** and ***50***, respectively, to extend perpendicular to the bottom ***40***. Then, one may place the center holes of the compact discs over the post ***32*** formed by the first and second components ***48*** and ***50***. To store an item other than a storage disc, one may position the body ***38*** in a second position by pivoting the first and second components ***48*** and ***50***, respectively, into the receptacle ***42*** below the surface ***44*** of the bottom ***40***. Then, one may place the item in the storage compartment ***30*** unimpeded by the post ***32***.

[18] **FIG. 3** is a cross-sectional view of the storage compartment ***30*** in **FIG. 2** with the post ***32*** positioned to store a camera docking station ***52*** in the compartment ***30*** according to an embodiment of the invention.

[19] The body ***38*** may be disposed in the storage compartment ***30*** in any desired manner that frees the interior ***46*** to store items other than storage discs. For example, in one embodiment, the first and second components ***48*** and ***50***, respectively, of the body ***38*** may be disposed in the receptacle ***42*** and may lie below and substantially parallel to the surface ***44***. Thus, when the camera docking

station ***52*** is stored in the storage compartment ***30***, the station can occupy the portion of the surface ***44*** over the recessed post ***32***.

[20] **FIG. 4** is an exploded perspective view of the storage compartment ***30*** and post ***32*** of **FIGS. 2** and **3**, according to an embodiment of the invention. The first component ***48*** of the body ***38*** is shown coupled to the bottom ***40***, and the second component ***50*** of the body is shown separated from the bottom. Each component ***48*** and ***50*** may be similarly coupled to the bottom ***40*** as discussed below. Alternatively, each component ***48*** and ***50*** may be coupled differently to the bottom ***40***, for example, the first component may be pivotally fastened and the second component may be slidably fastened.

[21] The post ***32*** includes a coupling element ***54*** (not referenced on the first component ***48*** for clarity) to couple the body ***38*** to the bottom ***40*** of the storage compartment ***30*** and to allow the body to be positioned relative to the bottom in at least two different positions. The coupling element ***54*** may releasably fasten the body ***38*** to the bottom ***40***. This may be desirable to replace the body ***38*** or one of the components ***48*** and ***50*** with a body or component that includes a different size and/or shape. For example, the replacement body or component may be longer than the respective body ***38*** or components ***48*** and ***50***, and thus, able to retain more storage media.

[22] In one embodiment, the coupling element ***54*** may include a protrusion ***56*** (not shown on the first component ***48*** for clarity) that may be inserted into a hole ***58*** in the receptacle ***42***, and may include a first element (not referenced on the first component ***48*** for clarity) to couple the first component ***48*** to the bottom ***40***, and a second element ***54a*** to couple the second component ***50*** to the bottom ***40***. The bottom ***40*** may include the receptacle ***42*** and four holes ***58*** (only two shown for clarity), and the first and second components ***48*** and ***50***, respectively, each may include two protrusions ***56***. Each protrusion ***56*** may be inserted into a respective hole ***58*** to couple the first and second components ***48*** and ***50***, respectively, to the bottom ***40***. To insert each protrusion ***56*** into a respective hole ***58***, the two protrusions ***56*** of each component ***48*** and ***50*** may be forced toward each other to

align them with their respective holes ***58***, and then once aligned, released. With the protrusions ***56*** inserted into their respective holes ***58***, the first and second components ***48*** and ***50***, respectively, may be pivoted relative to the bottom ***40*** among different positions while remaining fastened to the bottom ***40***.

[23] Other embodiments are contemplated. For example, the coupling element ***54*** may include a hinge fastened to the first component ***48*** and the bottom ***40***, and another hinge fastened to the second component ***50*** and the bottom ***40***. In another example, each component ***48*** and ***50*** may be slidable relative to the bottom ***40*** among different positions. For example, one or both components ***48*** and ***50*** may be oriented substantially perpendicular to the bottom ***40*** and remain substantially perpendicular to the bottom ***40*** as each is retracted below or extended above the surface ***44***. For example, the bottom ***40*** may include four tracks, and each protrusion ***56*** of the components ***48*** and ***50*** may be inserted into a respective one of the tracks and slide in their respective track when each component is extended or retracted.

[24] Still referring to **FIG. 4**, the post ***32*** may also include a locking element ***64*** (not shown on the first component ***48*** for clarity) to retain the body ***38*** at one or more positions. In one embodiment, the locking element ***64*** includes a locking-element receptacle ***66***, and a locking-element protrusion ***68*** that may engage the locking-element receptacle ***66*** when the body ***38*** is in a desired position. For example, the first and second components ***48*** and ***50***, respectively, each may include two locking-element receptacles ***66*** (not shown on the first component ***48*** for clarity), and the bottom ***40*** may include two locking-element protrusions ***68*** (only one shown for clarity), each corresponding to a respective one of the components ***48*** and ***50***. With each of the components ***48*** and ***50*** coupled to the bottom ***40***, each locking-element receptacle ***66*** may be aligned with a respective one of the locking-element protrusions ***68*** by pivoting the components ***48*** and ***50*** to a predetermined position. When a locking-element receptacle ***66*** is aligned with a protrusion ***68***, a cantilevered beam ***70*** urges the protrusion ***68*** toward the receptacle ***66***. With both locking-element protrusions ***68*** inserted into a locking-element receptacle ***66***, the locking element ***64*** retains the body ***38*** in the

predetermined position. For example, one predetermined position may be when the components ***48*** and ***50*** are perpendicular to the bottom ***40*** and another predetermined position may be when the components ***48*** and ***50*** are in the receptacle ***42*** and parallel to the bottom ***40***.

[25] Other embodiments are contemplated. For example, the locking element ***64*** may include a setscrew to retain the body ***38*** at one or more predetermined positions. In another example, the locking element may include a bar that extends from the body ***38*** and is insertable into a hole in the bottom ***40***, whose location is predetermined.

[26] Still referring to **FIG. 4**, the storage compartment ***30*** and post ***32*** may be made of any desired material. For example, in one embodiment the storage compartment ***30*** and post ***32*** are formed by casting conventional plastic in a mold.

[27] **FIG. 5** is a cross-sectional view of a storage compartment ***72*** that includes a positionable post ***74*** according to another embodiment of the invention. The post ***74*** is similar to the post ***32*** in **FIGS. 2 – 4**, except that the post ***74*** includes a support element ***76*** to support a storage disc ***78*** away from the bottom ***80***. For example, in one embodiment the support element ***76*** includes a shoulder ***82*** that may be fastened to the components ***84*** using any conventional technique, or may be formed integral with the components ***84*** and ***86***. It may also be desirable to make the shoulder ***82*** adjustable so that one can adjust the distance between the bottom ***80*** and the shoulder ***82***.

[28] The preceding discussion is presented to enable one skilled in the art to make and use the invention. Various modifications to the disclosed embodiments will be readily apparent to those skilled in the art, and the generic principles herein may be applied to other embodiments and applications without departing from the spirit and scope of the present invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.